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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,007	02/18/2004	Sang-Ho Kim	5000-1-459	2396
33942	7590	07/17/2008		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER MARANDI, JAMES R	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/781,007

Applicant(s)

KIM ET AL.

Examiner

JAMES R. MARANDI

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's remarks filed on 4/8/2008 have been fully considered.
 - In light of applicant's amendments, rejections of claims 1-2 under 35 USC § 101 is hereby withdrawn.
 - In light of applicant's amendment, rejection of claim 1 under 35 USC § 112, first paragraph, lack of enablement, is withdrawn.

Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claim 3 is objected to because of the following informalities:
 - Under ONU Comprising, 1st line, "for converting signals output signals ..." appears to be a typographical error and should read "for converting output signals...".

- The last step as reflected in claim 1 appears to be "wherein the OLT outputting.....". The Examiner believes this is typographical error as this step is performed by the OLT before passing the information to the ONU. Therefore, it should appear before the heading "an Optical Network Unit (ONU) comprising".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being vague and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites **OLT for converting digital broadcasting data received from a plurality of service providers without modulation into optical signals** and then recites ONU converting these un-modulated non-optical signals into **electrical signals**, which is vague.

In order to expedite prosecution, the examiner has interpreted this claim as assigning ATM VCIs per broadcasting channel and passing said VCIs, along with ATM frames, from the OLT to ONU unmolested.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: (***See MPEP Ch. 2141***)

- a. Determining the scope and contents of the prior art;
- b. Ascertaining the differences between the prior art and the claims in issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over N. Terada et al., "an MPEG2- Based Digital CATV and VOD system using ATM-PON Architecture", IEEE Proceedings of Multimedia, 1996 (hereinafter "Terada") in view of D. Pecorella, "Video-Distribution Markets Look to ATM Technology as Transport Vehicle", Lightwave, June 2000.

Regarding claim 1, 3, and 5 Terada discloses a method, process, system, and network: **for providing broadcasting services (Fig. 3-1), comprising:**

an Optical Line Termination (OLT) (SLT) for receiving Single Program Transport Streams (STPS) from a plurality of broadcasting service providers (CATV Provider), converting the SPTSs into a plurality of asynchronous transfer mode (ATM) cells and assigning a virtual channel identifier (VCI) to each of the ATM cells (Section 4.1); and

an Optical Network Unit (ONU) (Fig. 3) comprising:

an ATM cell conversion section for converting signals output signals from the OLT into an ATM format and for outputting at least one broadcasting channel data from each ATM cell (section 3.2);

a switch (Ch. SEL) for switching each digital broadcasting data output from the ATM cell conversion section to a subscriber (Fig. 2-2, Sec. 2.1 last 4 lines, Sec. 3.2, last two paragraphs); and

a control section for receiving header information in the ATM cell (each VCI in ATM header is associated with a unique program, Sec. 4.1) from the ATM cell conversion section, for receiving a desired broadcasting channel from the subscriber (Channel Selection Control in Set Top Box), and for controlling the switch so that channel data outputted from the ATM cell conversion section can be corresponded to the channel desired by the subscriber (Fig. 2-2, Sec. 2.1 last 4 lines, Sec. 3.2, last two paragraphs);

wherein the OLT outputting a VCI frame to the ONU comprising the
(ATM communications between ATM nodes has VCI header, also shown in Figs
3-2, and 3-3) **header information and a payload portion of the converted**
SPTS.

Terada does not explicitly disclose processing **single-channel multiple**
program transport streams (MPTSs) as well as SPTS. However, Pecorella, in
an analogous art, substantially discloses an ATM edge device capable of
processing single channel MPTS streams (Fig.3, Page 4 and 5, 4th paragraph
under heading Broadband world meets network world).

Therefore, it would have been obvious to one of ordinary skills in the art, at the
time of invention, to modify Terada's system with Pecorella's teaching in order to
provide a solution for cable providers to seamlessly migrate/ support packet
based systems.

Regarding claims 2, and 4, **wherein the header information includes an ATM**
VCI field representing a communication path of a corresponding ATM cell
(this how ATM operates. Without a VCI the ATM cell would not know how to
route itself), **and a channel information field containing broadcasting station**
information (this is part of MPEG standard) **corresponding to PID information**
of each broadcasting channel field included in a payload portion of the

ATM cell (section 4.1).

Claim 6 is rejected as claim 1 as we have already analyzed **wherein the digital broadcasting data from the plurality of service providers are in the form of single-channel MPTSs (multiple program transport streams).**

Regarding claim 7, **wherein the single-channel MPTS comprises at least one header and at least one channel data.** MPTS always have header and channel data.

Claim 8 is rejected by the same analysis as claim 2.

Regarding claim 9, **wherein the broadcasting channel field includes a MPEG data field having digital broadcasting data (payload in MPEG standard) and a PID information field having channel information (per MPEG standard).**

Regarding claim 10, **wherein the output of the OLT is transmitted to the ONU via an optical fiber** (two optical devices must talk optical, and in Cable/ Telco infrastructure it is always fiber).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES R. MARANDI whose telephone number is (571)270-1843. The examiner can normally be reached on 8:00 AM- 5:00 PM M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher C. Grant can be reached on (571) 272-7294. The fax phone

Art Unit: 2623

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James R. Marandi/

/Christopher Grant/
Supervisory Patent Examiner, Art Unit 2623